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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/559,802 | 03/26/2007 | Fritz-Peter Pleschiutchnigg | HM-675PCT | 7340 |

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| EXAMINER |
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MCGUTHRY BANKS, TIMA MICHELE

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| ART UNIT | PAPER NUMBER |
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1793

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05/18/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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| Office Action Summary | Application No. 10/559,802 | Applicant(s) PLESCHIUTSCHNIGG ET AL. | |
| | Examiner TIMA M. MCGUTHRY-BANKS | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Status of Claims

Claim 1 was currently amended, Claims 2-12 are as previously presented and Claims 13-19 were cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/16/2020 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 1, 6-9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutchnigg et al (US 5,991,991) in view of Pleschiutchnigg et al (US 5,832,985), Mabuchi et al (US 6,096,137), JP 406100949 A, and Dittrich et al (US 2004/0154437).

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Pleschiutchnigg et al '991 in view of Pleschiutchnigg et al '985, Mabuchi, JP '949 and Dittrich et al is applied as discussed in the office action mailed 12/14/2009. Further, Dittrich et al teaches a desired final microstructure by using degassing (reducing the final content of dissolved gases) under vacuum and a ladle [0055]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to the degassing process of Dittrich et al to achieve a desired final microstructure, since Dittrich et al teaches that degassing increases the quality of steel [0002].

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutchnigg et al '991 in view of Pleschiutchnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, as applied to claim 1 above, and further in view of JP 2000087128 (Derwent abstract) and JP 10130713 (Derwent abstract).

This rejection is for substantially the same reasons as set forth in the Office action mailed 4/27/2009.

Claims 1 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutchnigg et al '991 in view of Pleschiutchnigg et al '985, Mabuchi et al, JP '949, Pleschiutchnigg et al (US 2003/0230163) and Rose et al (US 6,238,453 B1)

Pleschiutchnigg et al '991 in view of Pleschiutchnigg et al '985, Mabuchi, and JP '949 is applied as discussed in the office action mailed 12/14/2009. Regarding the selection of process route (b), Pleschiutchnigg et al '163 teaches an EAF with two vessels and a ladle, and refers to DE 19621143 A1 (also Rose et al) to describe the process of using parallel vessels. It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to use the parallel vessels to achieve a desired final microstructure, since Rose et al teaches that this process results in a base metal with a final analysis with austenites, ferrites and martensites (column 2, lines 15-18).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949, Pleschiutschnigg et al '163 and Rose et al as applied to claim 1, and further in view of JP '713.

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949, Pleschiutschnigg et al '163, Rose et al. and JP '713 are applied as discussed in the Office Action mailed 4/27/2009.

Claims 1, 4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949, and Gero (US 3,523,785).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi, JP '949 and Gero is applied as discussed in the office action mailed 4/27/2009. Regarding the selection of process route (c), Gero teaches a desired final microstructure by degassing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the degassing process of Gero to achieve a final microstructure, since Gero teaches reducing the amount of undegassed metal and provides for greatly increased stability in the rate of flow into the ingot pouring mold or cylinder (column 4, lines 13-17).

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Claims 1 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949, and Keilman et al (US 4,390,362).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi, JP '949 and Keilman et al is applied as discussed in the office action mailed 4/27/2009. Regarding the selection of process route (d), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the vacuum degassing process of Keilman et al, since Keilman et al teaches that vacuum degassing removes materials that can cause porosity, flaking, embrittlement, voids, inclusions and other undesirable conditions after the steel after it is solidified.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, Pleschiutschnigg et al '163 and Rose et al, Gero or Keilman et al as applied to claim 1 above, and further in view of Cornet et al (US 6,821,356 B2).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, Pleschiutschnigg et al '163 and Rose et al, Gero or Keilman et al and Cornet et al is applied as discussed in the office action mailed 4/27/2009.

Response to Arguments

Applicant's arguments filed 4/16/2010 have been fully considered but they are not persuasive. Applicant argues that none of the cited references teaches providing a plurality of

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process routes and then selecting one of the process routes based on a desired final microstructure. The examiner notes that none of the cited groups of references for each process route individually teaches the other three routes, but all of the references combined cited teach the claimed invention. Achieving a final desired microstructure with different molten metal treatment is known and taught by the cited reference groups, but applicant does not claim or provide distinguishing microstructure features obtained with each process route. Each of the secondary references teaches one of the process routes as obvious.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Wyszomierski/
Primary Examiner
Art Unit 1793

/T. M. M./
Examiner, Art Unit 1793
18 May 2010